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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,562	10/15/1999	JACOBUS C. HAARTSEN	040070-549	9055

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BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
ODOM, CURTIS B	

ART UNIT	PAPER NUMBER
2634	9

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/418,562	HAARTSEN, JACOBUS C.	
	Examiner	Art Unit	
	Curtis B. Odom	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,12,14,16-23,27 and 29* is/are rejected.

7)☒ Claim(s) *10,13,15,25,28 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 1999* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 12, 14, 16-23, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergstrom et al. (previously cited in Office Action 8/14/03)

Regarding claim 1, Bergstrom et al. discloses a method of selecting a hop channel for use in a channel hopping communication system that includes a sequence of hop channels, wherein the sequence comprises a set of forbidden hop channels and a remaining set of allowable hop channels (column 2, lines 62-65), wherein the channels with interference are forbidden hop channels, the method comprising:

selecting (column 2, lines 4-16) a hop channel from the sequence as a function of a present phase; and

if the selected hop channel is a forbidden hop channel then using a time-varying parameter to select a substitute hop channel from the set of allowable channels (column 2, lines 20-27 and column 3, lines 27-33) by performing the steps of:

designating an index value, i, as a function of the time-varying parameter (column 3, line 2);

designating one of the allowable hop channels in the sequence of hop channels as a first hop channel (column 6, lines 5-15), wherein f_1 is the fixed frequency (first hop channel) on which the characteristic signal is sent;

starting at the first hop channel, processing the sequence of hop channels to determine an ith allowable hop channel in the sequence of hop channels (column 6, lines 5-25),

selecting the ith allowable hop channel for use as a substitute channel (column 6, lines 5-25, wherein the second frequency is the ith allowable hop channel chosen from a state matrix X which contains the processed sequence of ith allowable hop channels (column 2, line 62-column 3, line 29).

Bergstorm et al. does not disclose if the selected hop channel is an allowable hop channel, then using the selected hop channel for communication during the present phase and using the substitute hop channel for communication during the present phase

However, Bergstrom et al discloses that depending on a status value, the selected hop channel or the substitute hop channel would be used for transmission (column 2, lines 21-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that if the state value met a certain specification, then the selected hop channel would be an allowable hop channel and used for communication during a present phase, but if the status value did not meet a certain specification, then the substitute hop channel would be used for communication during the present phase.

Regarding claim 2, which inherits the limitations of claim 1, Bergstrom et al. does not disclose the time-varying parameter is a clock value. However, Bergstrom et al. does disclose the time-varying parameter can be a randomly selected value (column 3, lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the clock value could have been the randomly selected value.

Regarding claim 3, which inherits the limitations of claim 1, Bergstrom et al. does not disclose the time-varying parameter and the present phase are derived from the same clock value. However, it would have been obvious to one skilled in the art at the time the invention was made to derive the time-varying parameter and the present phase from the same clock value to eliminate phase offset from processes in the device.

Regarding claim 4, which inherits the limitations of claim 1, Bergstrom et al. further discloses the time-varying parameter is a randomly selected value (column 3, lines 30-33).

Regarding claim 5, which inherits the limitations of claim 1, Bergstrom et al. does not disclose the time-varying parameter is a pseudo-randomly selected value. However, Bergstrom et al. does disclose the time-varying parameter is a randomly selected value (column 3, lines 30-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the time-varying parameter could have also been a pseudo-randomly selected value since both parameters would simply produce random values.

Regarding claim 6, which inherits the limitations of claim 1, Bergstrom et al. discloses at least one of the forbidden channels is associated with received interference from a jammer (column 2, lines 11-27).

Regarding claim 7, which inherits the limitations of claim 1, Bergstrom et al. discloses at least one of the forbidden hop channels is reserved for used by a communication system that is not the channel hopping communication system (column 1, lines 13-21, wherein the prohibited frequency is occupied by a jammer caused by a local TV station).

Regarding claim 8, which inherits the limitations of claim 1, Bergstrom et al. discloses dynamically determining the set of forbidden hop channels, whereby the set of the forbidden hop channels varies over time (column 2, lines 62-65 and column 3, lines 16-26).

Regarding claim 12, which inherits the limitations of claim 1, Bergstrom et al. discloses the first hop channel is the first hop channel in the sequence of hop channels (column 6, lines 5-15), wherein f_1 is the first hop channel.

Regarding claim 14, which inherits the limitations of claim 1, Bergstrom et al. discloses starting at the first hop channel and continuing with each successive hop channel in the sequence of hop channels, determining wherein the hop channel is an allowable hop channel (column 6, lines 5-15 and column 2, line 62-column 3, line 29), wherein each fixed frequency (f_1-f_n) is processed and the values are stored in a state matrix for determining allowable hop channels; and

stopping when an ith allowable hop channel has been identified in the sequence of hop channels (column 6, lines 5-25), wherein if the first frequency is an allowable hop channel, it is used for communication, but if otherwise, a second frequency is found from the state matrix containing the allowable hop channels which can be used for communication.

Regarding claim 16, Bergstrom et al. discloses a hop channel selector (Fig. 4) for use in a channel hopping communication system that includes a sequence of hop channels, wherein the sequence comprises a set of forbidden hop channels and a remaining set of allowable hop channels (column 2, lines 62-65), wherein the channels with interference are forbidden hop channels, the hop channel selector comprising:

logic configured to select (Fig. 4, column 2, lines 4-16) a hop channel from the sequence as a function of a present phase; and

logic configured to use a time-varying parameter to select a substitute hop channel from the set of allowable hop channels (Fig. 4, column 2, lines 20-27 and column 3, lines 27-33), wherein logic configured to use a time-varying parameter to select a substitute hop channel from the set of allowable hop channels comprises:

logic configured to determine an index value, i, as a function of the time-varying parameter (column 3, line 2);

logic configured to designate one of the allowable hop channels in the sequence of hop channels as a first hop channel (column 6, lines 5-15), wherein f_1 is the fixed frequency (first hop channel) on which the characteristic signal is sent;

logic configured to process the sequence of hop channels, starting at the first hop channel, to determine an ith allowable hop channel in the sequence of hop channels (column 6, lines 5-25),

logic configured to select the ith allowable hop channel for use as a substitute channel (column 6, lines 5-25, wherein the second frequency is the ith allowable hop channel chosen from a state matrix X which contains the processed sequence of ith allowable hop channels (column 2, line 62-column 3, line 29).

Bergstrom et al. does not disclose logic configured to use the selected hop channel for communication during the present phase if the selected hop channel is an allowable hop channel and to use the substitute hop channel for communication during the present phase if the selected hop channel is not an allowable hop channel.

However, Bergstrom et al discloses that depending on a status value, the selected hop channel or the substitute hop channel would be used for transmission (column 2, lines 21-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that if the state value met a certain specification, then the selected hop channel would be an allowable hop channel and used for communication during a present phase, but if the status value did not meet a certain specification, then the substitute hop channel would be used for communication during the present phase.

Regarding claim 17, which inherits the limitations of claim 16, Bergstrom et al. does not disclose the time-varying parameter is a clock value. However, Bergstrom et al. does disclose the time-varying parameter can be a randomly selected value (column 3, lines 30-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the clock value could have been the randomly selected value.

Regarding claim 18, which inherits the limitations of claim 16, Bergstrom et al. does not disclose the time-varying parameter and the present phase are derived from the same clock value. However, it would have been obvious to one skilled in the art at the time the invention was made to derive the time-varying parameter and the present phase from the same clock value to eliminate phase offset from processes in the device.

Regarding claim 19, which inherits the limitations of claim 16, Bergstrom et al. further discloses the time-varying parameter is a randomly selected value (column 3, lines 30-33).

Regarding claim 20, which inherits the limitations of claim 16, Bergstrom et al. does not disclose the time-varying parameter is a pseudo-randomly selected value. However, Bergstrom et al. does disclose the time-varying parameter is a randomly selected value (column 3, lines 30-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made that the time-varying parameter could have also been a pseudo-randomly selected value since both parameters would simply produce random values.

Regarding claim 21, which inherits the limitations of claim 16, Bergstrom et al. discloses at least one of the forbidden channels is associated with received interference from a jammer (column 2, lines 11-27).

Regarding claim 22, which inherits the limitations of claim 16, Bergstrom et al. discloses at least one of the forbidden hop channels is reserved for used by a communication system that is not the channel hopping communication system (column 1, lines 13-21, wherein the prohibited frequency is occupied by a jammer caused by a local TV station).

Regarding claim 23, which inherits the limitations of claim 16, Bergstrom et al discloses dynamically determining the set of forbidden hop channels, whereby the set of the forbidden hop channels varies over time (column 2, lines 62-65 and column 3, lines 16-26).

Regarding claim 27, which inherits the limitations of claim 16, Bergstrom et al. discloses the first hop channel is the first hop channel in the sequence of hop channels (column 6, lines 5-15), wherein f_1 is the first hop channel.

Regarding claim 29, which inherits the limitations of claim 16, Bergstrom et al. discloses logic configured to determine, starting at the first hop channel and continuing with each successive hop channel in the sequence of hop channels, whether the hop channel is an allowable hop channel (column 6, lines 5-15 and column 2, line 62-column 3, line 29), wherein each fixed frequency (f_1-f_n) is processed and the values are stored in a state matrix for determining allowable hop channels; and

stop when an ith allowable hop channel has been identified in the sequence of hop channels (column 6, lines 5-25), wherein if the first frequency is an allowable hop channel, it is used for communication, but if otherwise, a second frequency is found from the state matrix containing the allowable hop channels which can be used for communication.

Allowable Subject Matter

3. Claims 10, 13, 15, 25, 28, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 703-305-4097. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 709-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Curtis Odom
October 20, 2003

STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600